REMARKS/ARGUMENTS

Reconsideration and allowance in view of the foregoing amendment and the following remarks are respectfully requested.

It is noted that an Information Disclosure Statement was filed on August 9, 2005. It is respectfully requested that an initialed and dated copy of the Form PTO-1449 that accompanied that Information Disclosure Statement be returned to the undersigned with the next Official Communication.

Claims 1-15 are now pending.

The Examiner objected to the preambles of independent claims 1, 4 and 10 because it was unclear whether the claims were directed to a combination or a sub-combination. The preambles of each of the four independent claims have been revised and the bodies of those claims have respectively been revised to make it clear that applicant claims a fluid apparatus comprising a fluid passage body and a filter that fits in the bore of the fluid passage body. It is believed that these claims are now clear as to their intended scope.

Original claims 1-9 were rejected under 35 USC 102(b) as being anticipated by Glaser et al. Applicant respectfully traverses this rejection.

Anticipation under Section 102 of the Patent Act requires that a prior art reference disclose every claim element of the claimed invention. See, e.g., Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1574 (Fed. Cir. 1986). While other references may be used to interpret an allegedly anticipating reference, anticipation must be found in a single reference. See, e.g., Studiengesellschaft Kohle, G.m.b.H. v. Dart Indus., Inc., 726 F.2d 724, 726-27 (Fed. Cir. 1984). The absence of any element of the claim from the cited reference negates anticipation. See, e.g., Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 715 (Fed. Cir. 1984). Anticipation is not shown even if the differences between the claims and the prior art

reference are insubstantial and the missing elements could be supplied by the knowledge of one skilled in the art. See, e.g., Structural Rubber Prods., 749 F.2d at 716-17.

Claim 1 has been amended above to recite more specifically that the filter has an inlet section defining an opening on an opposite end of the filter with respect to the closed end section, so that fluid enters the opening of the inlet section, passes through the filter section and the plurality of holes, and then flows through the tubular fluid passage defined between the filter section and the inner surface of the fluid passage body. Claim 4 is similarly limited.

Claim 1 further specifies that the cross-sectional area of the tubular fluid passage between the outer surface of the closed end section and the inner surface of the fluid passage body increases gradually in the fluid flow direction so that the fluid passage around the closed section gradually expands to the downstream side of the filter. With reference to the illustrated example embodiment (Figure 4a), and as described at page 8, line 25 - page 10, fluid flows into the opening of the inlet section of filter 50 from the left side in Figure 4a and passes through the small holes 53. The fluid thus flows into and then through the fluid passage formed between the outer surface of the end section 54 of the filter 50 and the inner surface of the mounting bore 42. The cross-sectional flow area of the fluid passage increases gradually to the right side in Figure 4A. Thus, fluid flow is smoothly throttled in the fluid passage so that fluid flow on the downstream side of the filter is capable of being stabilized. Accordingly, fluid flow does not quickly diffuse in the downstream of the filter so that vortex and pressure loss can be reduced.

In contrast to the invention recited in claim 1, for example, Glazer discloses, e.g., at column 4, lines 62-64, fluid flowing from the left side to the right side in Figure 1. In this structure, after passing through holes, the fluid quickly diffuses inside the filter. Therefore, vortex and pressure loss may arise downstream of the holes in the filter.

Thus, Glazer does not teach or suggest an apparatus in which a fluid passage downstream of the filter holes gradually expands in the combination claimed. Accordingly, the invention is not anticipated by Glazer.

With reference to amended claim 4, the filter apparatus of the invention is characterized in that fluid passing through the holes gradually diffuses and the fluid flows through a tubular fluid passage defined between the filter and the fluid passage body downstream of those holes. Again, with such a structure fluid will not quickly diffuse through the holes and the tubular fluid passage. As is evident from Figure 9 of Glazer, the hole in Glazer has an inner diameter that increases in the flow direction from the upper side to the lower side in Figure 9. However, the cross-sectional area of the fluid passage drastically increases downstream of the hole in Glazer. Therefore, Glazer does not teach or suggest the structure recited in applicant's independent claim 4, in which fluid flow is introduced to a passage regulated by the periphery of the filter and the fluid passage body after passing through the hole. It is therefore respectfully submitted that neither claim 1 nor claim 4 is anticipated by nor obvious from Glazer.

The claims that depend from claims 1 and 4 are submitted to be allowable over Glazer for the same reasons.

Claim 10 was rejected under 35 USC 102(b) as being unpatentable over Stearns or Pakki et al. Applicant respectfully traverses this rejection.

The filter assembly defined in claim 10 is characterized in that the filter has a closed end section downstream from an open inlet section through which fluid flows into the filter. Thus, as described for example at page 10 of the specification, line 18 - page 11, line 12, fluid passes from the opening of the inlet section on the end opposite the closed end section 54 where there are no holes. When debris flows into filter section 52, the debris cannot pass through end section 54 and is collected there.

In contrast, as is understood for example from Figure 2 of Stearns and Figures 1-3 of Pakki, in the cited references the closed ends of the filters are arranged upstream with respect to the direction of fluid flow. Accordingly, debris contained in the fluid cannot be collected by the closed ends of the filter structures. Therefore, the invention of claim 10 is not anticipated by nor obvious from Stearns or Pakki.

Claim 11 was rejected under 35 USC 103 as unpatentable over Pakki et al, Glazer or Stearns et al. Applicant respectfully traverses this rejection.

The filter apparatus of the invention as set forth in claim 11 presented hereinabove is characterized in that the tubular fluid passage has a cross-sectional area that is equal to or small than the sum of the cross-sectional areas of the holes so that fluid flow is regulated through that tubular passage after passing through the holes. With such a structure, fluid flow is throttled in the tubular fluid passage. Consequently, pressure drop throughout the filter is can be regulated by precisely controlling the outer diameter of the filter section and the inner diameter of the fluid inlet port. In other words, each small hole in the filter need not be precisely manufactured and consequently performance of the injector can be easily controlled. In contrast to the invention as recited in amended claim 11, Pakki, Glazer and Stearns include no teaching or suggestion of correlating the cross-sectional area of a tubular fluid passage as claimed to the sum of the cross-sectional areas of the holes. It is therefore respectfully submitted that he invention defined in claim 11 is not anticipated by nor obvious from the applied art.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance and an early Notice to that effect is earnestly solicited.

Respectfully submitted,

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